

REMARKS

In view of the above amendments and the following remarks, reconsideration of the present application is respectfully requested.

Claims 1-12 are pending. Claims 13-16 have been withdrawn from consideration. Claims 1-12 have been rejected. Claims 1 and 12 have been amended. Support for the amendment to claim 1 is found at paragraphs [0013] and in Examples 2 and 3. No new matter has been introduced by the amendments.

Rejections under 35 U.S.C. § 112

Claim 12 has been rejected under 35 U.S.C. § 112, 2nd paragraph, for indefiniteness.

Claim 12 has been amended to recite "...samples that contain unspecific amplification products are not typed by DNA sequencing ..."

In view of the clarifying amendment to claim 12, removal of the rejection of claim 12 is respectfully requested.

Rejections under 35 U.S.C. § 102(b)

Claims 1-5 have been rejected under 35 U.S.C. § 102(b) as anticipated by WO 96/06187 to Tully et al.

Tully discloses a method for single nucleotide polymorphism analysis using nucleotide primers complementary to a characterized base sequence extended by a single dye-labeled di-deoxynucleoside triphosphate (ddNTP). Thus, "...chain extension by the chain extending enzyme terminates after the addition of only one base which is complementary to the base being determined." See pages 2 and 3 of Tully. It is the position of the Examiner that Tully teaches the invention as presently claimed. This is not the case.

The method of the present invention uses Sanger sequencing, pyrosequencing or mass spectrometry DNA sequencing, as recited in claim 1 and exemplified in Examples 2 and 3 of the application. Each of these methods of sequencing explicitly requires at a

minimum a plurality of base extensions for adequate analysis. *See* Sanger et al., “DNA Sequencing With Chain-Terminating Inhibitors” *Proc. Natl. Acad. Sci.* 74(12):5463-5467 (1977); Ronaghi et al., “A Sequencing Method Based On Real-time Pyrophosphate” *Science* 281(5375):363-365 (1998); Berkenkamp et al., “Infrared MALDI Mass Spectrometry of Large Nucleic Acids” *Science* 281(5374):260-262 (1998). Therefore, the method of Tully in which chain extension must terminate after only one base cannot anticipate, either expressly or inherently, claim 1, nor claims 2-5 dependent thereon, of the present invention. The rejection of these claims should be withdrawn.

Claims 1-5 have been rejected under 35 U.S.C. § 102(b) as anticipated by Ye et al., “Fluorescent Microsphere-based Readout Technology For Multiplexed Human Single Nucleotide Polymorphism Analysis and Bacterial Identification” *Human Mutation* 17:305-316 (2001).

Ye discloses a method for single nucleotide polymorphism analysis involving hybridizing biotin-labeled single nucleotide primers to target base sequences, hybridizing the labeled target base sequences to beads and analyzing by flow cytometry. No where does Ye teach or suggest “...extending the hybridized primer or primers using Sanger sequencing, pyrosequencing or mass spectrometry DNA sequencing”, as recited in claim 1.

Therefore, the rejection of claim 1, and claims 2-5 dependent thereon, should be withdrawn.

Claims 6-12 have been rejected under 35 U.S.C. § 103(a) for obviousness over Tully in view of Rady.

Rady discloses a method of detecting human papillomavirus (HPV) types by sequencing of target HPV-DNA fragments using consensus primers and type-specific HPV primers in separate individual sequencing reactions.

As discussed above, Tully does not anticipate independent claim 1 of the present invention. The Examiner has made no showing that Rady remedies the deficiencies of Tully with respect to claim 1, either expressly or inherently. Therefore, claims 6-12, which are dependent on claim 1, are likewise not obvious over Tully in view of Rady.

For the above reasons, the rejection of claims 6-12 should be withdrawn.

Claims 6-12 have been rejected under U.S.C. § 103(a) for obviousness over Ye in view of Rady.

As discussed above, Ye does not anticipate independent claim 1 of the present invention. The Examiner has made no showing that Rady remedies the deficiencies of Ye with respect to claim 1, either expressly or inherently. Therefore, claims 6-12, which are dependent on claim 1, are likewise not obvious over Ye in view of Rady.

For the above reasons, the rejection of claims 6-12 should be withdrawn.

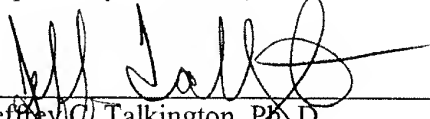
Conclusion

Since all claims are in a condition for allowance, the issuance of a Notice of Allowability is respectfully requested. Should the examiner have any questions or concerns, the Examiner is invited to call the undersigned attorney of record.

Date: October 9, 2007

Squire, Sanders & Dempsey L.L.P.
One Maritime Plaza
Suite 300
San Francisco, CA 94111
Telephone 415.954.0230
Facsimile 415.393.9887
jtalkington@ssd.com

Respectfully submitted,


Jeffrey C. Talkington, Ph.D.
Attorney for Applicants
Reg. No. 58,381